

WHAT IS CLAIMED IS:

1. (Original) A position-measuring device for a fluidic cylinder-and-piston arrangement, comprising:

at least one Hall sensor array including at least two Hall sensors spaced one from the other in a direction of movement of a piston of the cylinder-and-piston arrangement, and one coil to which a current can be applied and whose magnetic field permits switching points of the Hall sensors to be adjusted in response to the coil current; and

a magnetic region arrangeable in the piston.

2. (Original) The position-measuring device as defined in Claim 1, wherein the Hall sensor array includes a plurality of equally spaced Hall sensors or Hall-effect switches.

3. (Original) The position-measuring device as defined in Claim 2, and further comprising a substrate, the Hall sensors or Hall effect switches being arranged on the substrate.

4. (Original) The position-measuring device as defined in Claim 2, wherein the Hall sensors or Hall-effect switches are arranged one behind the other, and the coil is a frame-type coil of substantially rectangular shape arranged so as to surround the Hall sensors or Hall-effect switches.

5. (Original) The position-measuring device as defined in Claim 4, wherein the frame-type coil is arranged on one side of the substrate, whereas the Hall sensors or Hall-effect switches are arranged on the other side of the substrate.

6. (Original) The position-measuring device as defined in Claim 2, and further comprising a microcontroller and a multiplexer, the multiplexer being operatively arranged to select the Hall sensors or Hall-effect switches and feed their control states to the microcontroller.

7. (Original) The position-measuring device as defined in Claim 6, and further comprising a current controller operative to set the coil current to a desired constant value.

8. (Original) The position-measuring device as defined in Claim 7, wherein the current controller is operative to set the coil current independently of supply voltage and coil temperature.

9. (Original) The position measuring device as defined in Claim 7, wherein current controller is driven by the microcontroller.

10. (Original) The position-measuring device as defined in claim 7, wherein the microcontroller has a storage in which a position number of a Hall sensor or Hall-effect switch and a value of the coil current are stored for determining a position of the piston to be detected.

11. (Original) The position-measuring device as defined in claim 10, wherein the microcontroller during operation of the cylinder-and-piston arrangement is operative to determine the position number of an active Hall sensor or Hall-effect switch as well as the relevant coil current, compare these values with values stored in the storage of the microcontroller, and emit an output signal when the values are found to conform.

12. (Original) The piston-measuring device as defined in claim 1, wherein the Hall sensor array is arrangeable in a region of a cylinder wall of the cylinder-and-piston arrangement.

13. (Original) The piston-measuring device as defined in claim 12, wherein the Hall sensor array is arrangeable in the cylinder wall.